**CLEAN COPY OF CLAIMS [PENDING AND UNDER CONSIDERATION]**

14. (Amended) The method of claim 31 comprising contacting a sample of the subject's nucleic acid comprising the MnSOD gene with a probe or primer which can hybridize to a region of the MnSOD gene encoding the MTS, said region including nucleotide 351 of SEQ ID NO:1.

15. (Amended) The method of claim 31, wherein determining whether a first and/or second allele of the MnSOD gene in the subject comprises a mutation in the coding region for the MTS comprises determining the identity of at least one nucleotide of the region encoding the MTS.

16. (Amended) The method of claim 31, wherein determining whether a first and/or second allele of the MnSOD gene in the subject comprises a mutation in the coding region for the MTS comprises performing a restriction enzyme site analysis.

17. (Amended) The method of claim 31, wherein determining whether a first and/or second allele of the MnSOD gene in the subject comprises a mutation in the coding region for the MTS comprises performing a single-stranded conformation polymorphism analysis.

18. (Amended) The method of claim 31, wherein determining whether a first and/or second allele of the MnSOD gene in the subject comprises a mutation in the coding region for the MTS comprises performing an allele specific hybridization.

19. (Amended) The method of claim 31, wherein determining whether a first and/or second allele of the MnSOD gene in the subject comprises a mutation in the coding region for the MTS comprises performing a primer specific extension.

20. (Amended) The method of claim 31, wherein determining whether a first and/or second allele of the MnSOD gene in the subject comprises a mutation in the coding region for the MTS comprises performing an oligonucleotide ligation assay.

Please cancel claims 21 and 29-30.

22. The method of claim 14, wherein the probe or primer has a nucleotide sequence from about 15 to about 30 nucleotides.

23. The method of claim 31, wherein the probe or primer is labeled.

24. (Amended) The method of claim 31, wherein determining whether said first and/or second allele of the MnSOD gene comprise a mutation in the coding region for the MTS comprises analyzing the genomic DNA of said subject.

25. (Amended) The method of claim 31; wherein determining whether said first and/or second allele of the MnSOD gene comprise a mutation in the coding region for the MTS comprises sequencing.

26. (Amended) The method of claim 24; wherein determining whether said first and/or second allele of the MnSOD gene comprise a mutation in the coding region for the MTS comprises digesting said genomic DNA with an appropriate restriction endonuclease.

27. (Amended) The method of claim 31; wherein determining whether said first and/or second allele of the MnSOD gene comprise a mutation in the coding region for the MTS comprises analyzing the RNA of said subject.

28. (Amended) The method of claim 24; wherein the mutation in the coding region for the MTS resulting in a loss of α-helical structure in the MTS is a C at a position corresponding to position 351 in SEQ ID NO:1.

31. (Amended) A method of determining relative age-related risk of colorectal cancer in a Hispanic subject, comprising:

determining whether a first and/or second allele of a manganese superoxide dismutase (MnSOD) gene in the subject comprise a mutation in the coding region for the mitochondrial targeting sequence (MTS) of the MnSOD protein resulting in a loss of α-helical structure in the MTS;

assigning a lower risk of developing colorectal cancer at an age of less than about 35 years to said subject when the subject has no mutation in either the first or second allele of the MnSOD gene resulting in a loss of α-helical structure in the MTS; and

assigning a higher risk of developing colorectal cancer at an age of less than about 35 years to said subject when the subject has mutations in one or both the first and second alleles of the MnSOD gene resulting in a loss of α-helical structure in the MTS;

wherein determining whether said first and/or second allele of the MnSOD gene comprise a mutation in the coding region for the MTS comprises determining whether said first and/or second allele encodes an alanine at position -9 of the MnSOD signal peptide.

## REMARKS

### I. Rejections Under 35 U.S.C. § 112

#### A. 35 U.S.C. § 112, First Paragraph, Enablement

Claims 14-31 were rejected as lacking enablement. The Examiner objected to various aspects of the claims as overbroad.

Applicants traverse this rejection, but nevertheless have amended the claims without prejudice to expedite prosecution of the instant application. Applicants have adopted the Examiner's suggestions, and have amended the claims to reflect language explicitly found in the application given the current procedural posture of this case, although *ipsis verbis* support is not required, and the application fully supported the claims prior to this amendment. Applicants reserve the right to pursue claims of differing scope in subsequent continuing applications. The grounds of rejection recited at page 3 line 1-page 6 line 10 of the Office Action all refer to